

**REMARKS**

This amendment is concurrently filed with a Request for Continued Examination and is responsive to the Office Action dated January 1, 2006. Claims 25-34 remain withdrawn from consideration and claims 1, 4, 6, 7, 9, 10, 12, 13, 15-19 and 35-46 have been amended. Reconsideration of claims 1-24 and 35-46, which remain under consideration, is respectfully requested.

These amendments add no new matter. Implementation of a portable card terminal and corresponding identifier is variously described throughout Applicant's specification. For example, FIGs. 2-3 and the corresponding description clearly offer a full description of an implementation involving a portable card terminal, including various description of both the card and the card ID, in connection with authentication as described, for example, in FIG. 1.

Claims 1-12 have been rejected under 35 U.S.C. § 112, ¶1, for failing to comply with the written description requirement. The language related to the encryption key information has been amended to correct any ambiguity and now recites that the encryption key information comprises a random number.

Applicant submits that there is clearly support for the encryption key information features and requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, ¶1.

Claim 9 has been rejected under 35 U.S.C. § 112, ¶2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 has been amended to provide new dependency, and proper antecedent basis for the transient storage means. Applicant appreciates the Examiner's attention to this matter.

Applicant submits that the claims are all recited with the requisite particularity and distinctness and requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, ¶2.

Claims 35 and 36 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Pat. No. 6,584,444 to Tello ("Tello"), and claims 1-4 and 13-16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tello in view of Schneier, Bruce, "Applied

Cryptography,” John Wiley & Sons, pp. 170-178, 1996 (“Schneier”). This rejection is traversed.

With reference to independent claim 1, Applicant’s claimed invention recites an authentication system comprising a portable card terminal and an authentication device. The portable card terminal has a pre-stored first identification information that discriminates the portable terminal. Particularly, this first identification information is a device identifier, namely a card ID or “portable card terminal identifier” that uniquely identifies the portable card terminal.

The portable card terminal also receives input of associated second identification information. The second identification information is encrypted and transmitted to the authentication device. The authentication device stores the first and associated second identification information, and generates the encryption key information. The authentication device performs authentication by using the encryption key information to compare the encrypted second identification information and the second identification information stored therein.

Tello discloses a Virtual Private Network (VPN) service provider system and related technology. The user provides a number to call, a VPN user ID, and a password (*e.g.*, through the user interface of FIG. 3). The password is encrypted and provided to the VPN provider, which verifies the password and provides an authorization code that allows data to be transferred through the network. Tello thus allows a user to enter a VPN user ID and password to use the network.

Tello is clearly devoid of any disclosure or suggestion of certain features of Applicant’s claimed invention. Particularly, Tello does not disclose a portable card terminal. Tello also does not implement a device identifier, namely a portable card terminal identifier as claimed by Applicant. Instead, Tello implements a user ID and a password. The user ID is not a device identifier, but is instead a password that may be used anywhere. While potentially convenient, this feature of Tello in no way discloses or suggests a portable card terminal implementation, or such an implementation that relies upon a portable card identifier that uniquely identifies the portable card terminal as claimed by Applicant.

Schneier does not remedy the deficiencies of Tello. Schneier does appear to disclose the

generation of keys based upon a random number generator. However, there is no apparent disclosure or suggestion of any kind of having a portable card terminal identifier that uniquely identifies the portable card terminal as the first identification information, in the fashion claimed by Applicant.

Independent claim 13 is also neither disclosed nor suggested by Tello or Schneier, for reasons similar to those provided regarding claim 1 above.

Tello and Schneier thus fail to disclose features that are recited in Applicant's independent claims 1 and 13, whether considered alone or in combination. Accordingly, the rejection for obviousness is deficient, notwithstanding the absence of a proper motivation to combine the VPN technology of Tello with the encryption features of Schneier.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of independent claims 35 and 36 as being anticipated by Tello, and the rejection of independent claims 1 and 13 as being unpatentable over Tello in view of Schneier.

The dependent claims incorporate the features of their respective independent claims, and thus are distinguished from the relied upon references for the same reasons. Moreover, these claims separately recite their own distinct features that are neither disclosed nor suggested by the references.

For example, claim 4 recites that "said portable card terminal is a card-shaped portable terminal issued by said service provider to said service user." The Examiner posits that Tello discloses this feature, citing the passage from column 2, line 39 through column 3, line 21. However, there is no apparent disclosure in Tello of a portable card terminal, whether in this passage or elsewhere. This is because Tello discloses VPN which is clearly divergent from the portable card terminal claimed by Applicant. Other features recited in claim 4 are also absent from Tello and/or Schneier, and Applicant respectfully objects to any taking of official notice in that regard.

Claims 5 and 17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tello in view of Schneier, and further in view of U.S. Publication No. 2002/0012433 to Haverinen. This rejection is traversed.

Claims 5 and 17 depend from claims 1 and 13 and thus incorporate the features recited therein, including the provision of “first identification information storage means having a first identification information pre-stored therein for discriminating said portable card terminal, said first identification information comprising a portable card terminal identifier that uniquely identifies the portable card terminal,” as claimed by Applicant.

These claimed features, as described, are absent from Tello and Schneier, whether alone or in combination. Haverinen does not remedy the deficiencies of these references. Haverinen discloses authentication for a packet data network. A shared secret for both the mobile node and the packet data network is arranged by using a shared secret of the mobile node and a telecommunications network authentication center. There is no disclosure nor is there any suggestion of implementation of pre-storing a device identifier such as a portable card terminal identifier on a portable card terminal and using the same in the fashion claimed by Applicant.

Since even the introduction of Haverinen to the previously described combination of Tello and Schneier would still fail to yield the features of Applicant’s claimed invention, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 5 and 17 under these grounds.

Claims 6-7, 9, 18-19 and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tello in view of Schneier, and further in view of Glazner, Lon, “Storing Data with the RAMPACK B,” February, 1999 (“Glazner”). This rejection is traversed.

As described above, independent claims 1 and 13 are neither disclosed nor suggested by Tello and/or Schneier for the reasons provided above. Although Glazner discloses RAM type memory, the reference offers no apparent disclosure or suggestion of the authentication-related features described above. The proposed combination of Tello, Schneier and Glazner thus would still fail to produce the features of Applicant’s claimed invention, notwithstanding the impropriety of the offered combination.

Moreover, dependent claims also recite features that are distinct from the combination of references. For example, the mere disclosure of RAM offers no disclosure, nor any kind of suggestion of using a transient storage means and corresponding erasure of information as part of

an authentication system in the fashion that is claimed by Applicant. Applicant submits that the Examiner is engaged in an improper attempt to reconstruct Applicant's claimed invention in hindsight.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 6-7, 9, 18-19 and 21 as being unpatentable over Tello in view of Schneier, and further in view of Glazner.

Claims 10-12, 22-24 and 46 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tello in view of Schneier, and further in view of U.S. Pat. No. 6,195,698 to Lillibridge ("Lillibridge"). This rejection is traversed.

Claims 10-12 and 22-24 variously depend from claims 1 and 13, and claim 46 includes features similar to those found in claims 1 and 13. As described in detail above, Tello and Schneier fail to disclose or suggest the features recited in those claims. Lillibridge also fails to disclose or suggest, *inter alia*, having a portable card terminal pre-store a portable card terminal identifier that uniquely identifies the portable card terminal. Lillibridge appears to disclose a string that may be randomly modified to form a riddle, and offers no disclosure or suggestion of the features recited in Applicant's claims.

Accordingly, Applicant requests reconsideration and withdrawal of the rejection of claims 10-12, 22-24 and 46 under these grounds.

Claims 1-9, 13-21, and 35-42 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,880,769 to Nemirofsky ("Nemirofsky") in view of Schneier. This rejection is traversed.

Nemirofsky discloses an interactive smart card system for integrating remote and local services. (Nemirofsky, Title). With this system a smart card stores account information for remote financial services. The user initiates a financial transaction by providing input to the smart card using buttons and selecting specific financial transactions displayed on an LCD. After receiving the request from the user, a connection with the financial institution is initiated and data is exchanged to carry out a fully automated transaction. Pursuant to this transaction, "[f]or enhanced security, a transaction process may require the smart card 10 user to enter a PIN

code, using the buttons 30 or 32 on the smart card 10, which will be authorized by the financial institution prior to carrying out the transaction.” (Nemirofsky, at 5:11-15).

Applicant’s amended claim 1 recites “[a]n authentication system, said authentication system comprising:

*a portable card terminal, including:*

*first identification information storage means having a first identification information pre-stored therein for discriminating said portable card terminal, said first identification information comprising a portable card terminal identifier that uniquely identifies the portable card terminal,*

*operating means for inputting a second identification information associated with said first identification information,*

*encryption means for encrypting the second identification information input by said operating means based on an encryption key information, and*

*first communication means for communication with said authentication device;*

*an authentication device, provided independently of said portable card terminal for communication with said portable card terminal, the authentication device including:*

*second identification information storage means for storage of the first identification information and the second identification information therein,*

*encryption key information generating means for generating said encryption key information, wherein said encryption key information is comprises a random number made up by a preset number,*

*second communication means for communication with said portable card terminal, and*

*comparator authentication means for comparing and authenticating the second identification information encrypted by said encryption means based on said*

*encryption key information;*

*wherein said portable card terminal encrypts the second identification information input from said operating means, based on said encryption key information received from said authentication device, the so-encrypted second identification information is transmitted through said first communication means to said authentication device; and*

*wherein, in said authentication device, the encrypted second identification information received through said second communication means and the second identification information stored by said second identification information storage means are compared to each other based on said encryption key information by way of performing the authentication.*

Nemirofsky is quite clearly devoid of various features claimed by Applicant. Nemirofsky discloses the provision of a PIN code to a financial institution for enhanced security. There is no apparent disclosure or suggestion of using a portable card identifier in the fashion claimed by Applicant. Namely, there is no association of the portable card identifier and the second identification information, or encrypting the second information accordingly in the fashion claimed by Applicant. There is also no disclosure or suggestion of conducting such encryption in the portable card terminal based upon the encryption key information that is generated by the authentication device. Accordingly, there are various features that are quite clearly absent from Nemirofsky.

Schneier does not remedy the deficiencies of Nemirofsky. Schneier generally discloses that the implementation of a random key generator to generate a key is known, as well as disclosing that two parties may use the key. However, there is no mention whatsoever in Schneier of using the portable card terminal identifier as part of an authentication scheme of any kind, let alone the fashion claimed by Applicant. Accordingly, like Nemirofsky, Schneier also fails to disclose or suggest association of the portable card identifier and the second identification information, or encrypting the second information in the portable card terminal based upon the encryption key information generated by the authentication device, in the fashion claimed by Applicant.

For similar reasons, both references also fail to disclose or suggest the features recited in Applicant's claim 13. Since Nemirofsky and Schneier fail to disclose these various features that are recited in independent claims 1 and 13, whether considered alone or in combination, Applicant submits that the Examiner has failed to produce a *prima facie* case of obviousness.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of the cited claims as being unpatentable over Nemirofsky in view of Schneier.

Claims 10-12, 22-24 and 43-46 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nemirofsky in view of Schneier, and further in view of Lillibridge. This rejection is traversed.


Lillibridge does not remedy the deficiencies of Nemirofsky and Schneier as described previously. Moreover, Lillibridge fails to disclose plural input units having arraying positions that are variable, as contended by the Examiner. Lillibridge does disclose randomization of a character string, but fails to disclose randomizing the *input* positions as claimed by Applicant.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of the cited claims as being unpatentable over Nemirofsky in view of Schneier, and further in view of Lillibridge.

For the foregoing reasons, reconsideration and allowance of the claims which remain in this application are solicited. If any further issues remain, the Examiner is invited to telephone the undersigned to resolve them.

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Respectfully submitted,

By  *40,290*  
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Ronald P. Kananen  
Registration No.: 24,104  
Christopher M. Topin  
Registration No.: 40,290  
Attorney for Applicant

**RADER, FISHMAN & GRAUER, PLLC**  
Lion Building, 1233 20<sup>th</sup> Street, N.W., Suite 501  
Washington, D.C. 20036  
Tel: (202) 955-3750; Fax: (202) 955-3751  
Customer No. 23353